

ABSTRACT OF THE DISCLOSURE

A continuous static polymerisation reactor unit for the production of liquid polymers, in particular high viscosity organopolysiloxanes, in a predetermined viscosity range comprises a reactor (1) a supply means (10,25) for supplying monomers and/or oligomers to an inlet means (2), and an outlet means (5). The inlet means (2) is adapted for the introduction of a reaction mixture into a reaction chamber (3), and a means for introducing at least one viscosity controlling agent into the supply means is provided to form a reaction mixture with monomers and/or oligomers (11,13,15,12,14,16). The unit is adapted to maintain the values of temperature and flow rate of the resulting reaction mixture/polymer in the reaction chamber (3) substantially constant. A control means (24) is used to detect any variation from a predetermined pressure drop value between the inlet means (2) and the outlet means (5), and should such a variation occur the control means (24) is also used to compute and control a compensating rate of introduction of one or more of the at least one viscosity controlling agents to cause the pressure drop between the inlet means (2) and the outlet means (5) to revert to the predetermined value. A process for making liquid polymers within a predetermined viscosity range is also disclosed.

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